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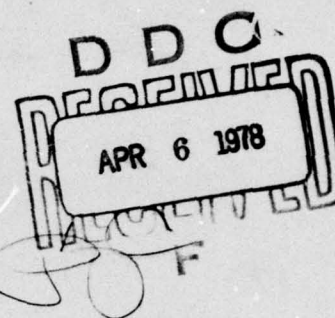
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**FINAL SUMMARY REPORT
LOGISTICS AND OPERATIONAL
EFFECTIVENESS OF THE P-3 AIRCRAFT**

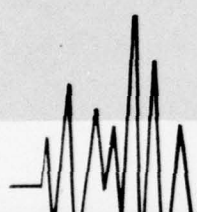
March 1978

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Prepared for
NAVAL AIR SYSTEMS COMMAND
DEPARTMENT OF THE NAVY
WASHINGTON, D.C.
under Contract N00019-77-C-0309



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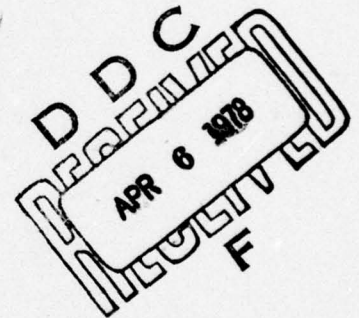
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ABSTRACT

This report summarizes a 12-month logistics, engineering, and program analysis effort performed by ARINC Research Corporation for the Naval Air Systems Command. It describes the activities that provided the P-3 Project Manager with an independent and objective evaluation of factors affecting the P-3's operational availability and logistic support posture.

The effort consisted primarily of analysis tasks for the major P-3 modification programs, integrated logistic support, foreign military sales programs, operational readiness programs, and P-3 site transition programs.

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CHAPTER ONE

INTRODUCTION

This report summarizes the work performed by ARINC Research Corporation for the Naval Air Systems Command (NAVAIRSYSCOM) from 1 March 1977 through 28 February 1978 under Contract N00019-77-C-0309.

The objective was to provide continuing program/logistics planning and analysis as well as engineering support for the P-3 program. This was accomplished principally through the performance of tasks in the following areas:

- Program Planning/Integrated Logistic Support (ILS)
 - P-3C Update II Program
 - P-3C Update III Program
 - P-3B Modernization Program
 - P-3 Foreign Military Sales (FMS) Programs
 - Change Management and OSIP Programs
- Engineering Activities
 - Data Collection/Problem-Area Identification
 - Field Engineering Support
 - Engineering Analyses/FIAT Activities
 - Related Maintenance/Engineering Activities
 - P-3 Operational Readiness Programs

All task assignments are summarized in this report. Details of the efforts are omitted since specific results have been presented in depth in monthly progress reports and other special reports. A listing of all data submissions is presented in the appendix to this report. The reader is referred to these submittals for details of work accomplished under this contract.

CHAPTER TWO

PROGRAM PLANNING/INTEGRATED LOGISTIC SUPPORT

During the contract period, ARINC Research Corporation provided a program and ILS analysis and planning effort for the following programs: P-3C Update II, P-3C Update III, P-3A/B Modernization, change management, and foreign procurements. The activities performed on these programs were similar, with the primary objective being to provide PMA-240 and other NAVAIR managers with the detailed, timely information required to make effective program decisions.

2.1 P-3C UPDATE II PROGRAM

During the contract period, the P-3C Update II Program was in the test and evaluation stage. The AN/AAS-36 Infrared Detecting System underwent off-line Navy Technical Evaluation and Operational Test and Evaluation at Patuxent River. The AN/ARS-3 Sonobuoy Reference System, AN/AQH-4(V)2 Analog Tape Recorder, and AN/AWG-19(V)1 Harpoon Command Launch Control System underwent reliability, maintainability, supplier, and design verification testing. In addition, Navy Technical Evaluation for the overall P-3C Update II weapon system was completed.

2.1.1 Task Description

The objective of this task was, through program analysis and planning, to provide assessments of current program status and a continuing evaluation of program problems.

2.1.2 Work Accomplished

We performed a series of analysis and planning tasks to provide "real time" visibility to applicable managers on program problems and alternatives, as well as impact assessments of possible program decisions. In particular, we provided information to PMA-240 for making decisions on hardware asset disposition and future fiscal year procurements. We also worked closely with AIR-4101B3 to develop detailed ILS requirements and implementation plans, and we proposed many options to ensure adequate support for the Update II systems prior to fleet introduction. The P-3C Update II Program Status Summary was updated a number of times to document changes in the program and to highlight problem areas.

Throughout the contract period, we maintained and expanded our liaison with all cognizant P-3C Update II activities and participated in a number of meetings and conferences, including:

- Hardware Design Management Team Meetings
- System Design Reviews
- Site Transition Meetings
- Integrated Logistic Support Management Team Meetings

2.2 P-3C UPDATE III PROGRAM

During this contract period, the P-3C Update III Program was in the Full Scale Development Phase, using the ADM (Advanced Development Model) equipment. Our efforts were directed primarily toward total program planning; they included the development, implementation, and subsequent updates of an Update III Program Status Summary to provide applicable managers with timely and accurate information on the progress of the program.

2.2.1 Task Description

As with the P-3C Update II Program, the objectives of this task were, through program analysis and planning, to provide assessments of current program status and a continuing evaluation of potential problems.

2.2.2 Work Accomplished

ARINC Research performed a series of analysis and planning tasks to provide applicable NAVAIR managers with "real time" information on program status and problems, as well as alternative approaches to implementing the program. The P-3C Update III Program Status Summary was developed during this contract period and was updated a number of times to reflect the evolving nature of the program.

We analyzed the interim support requirements of all P-3C Update III equipments for AIR-4101B3 and prepared an "Interim Support Scenario" to reflect those requirements. We also performed several analyses of the P-3C Update III budget requirements for PMA-240E. Throughout the contract period, we participated in a number of meetings and reviews, including:

- Level of Repair Analysis (LORA) Review of the AN/UYS-1 Analyzer Unit (AU)
- Update III Test and Evaluation Master Plan (TEMP) Meeting
- System Management Team Meetings
- Procurement Plan Reviews
- Program Alternatives Meeting
- Lightweight Generator Meeting

2.3 P-3A/B MODERNIZATION PROGRAM

During this contract period, the P-3A/B Modernization Program was in the final planning stages. The initial implementation stage was completed at NARF Alameda, and the first Barbers Point aircraft were delivered in September 1977. ARINC Research efforts were directed primarily toward assuring that final program plans were adequate to meet the requirements of fleet introduction.

2.3.1 Task Description

As with the Update II and III program efforts, the objective of this task was to provide assessments of current program status and a continuous evaluation of problems.

2.3.2 Work Accomplished

Our primary emphasis was placed on providing timely program information to assist the cognizant managers in assuring that the fleet introduction of the P-3B Mod aircraft proceeded as planned.

The P-3A/B Modernization Program Status Summary, which was developed during the previous contract period, was updated regularly to reflect program progress. This document proved to be invaluable in our work with fleet activities to definitize transition planning.

Using existing P-3A/B Modernization planning, we developed planning, implementation, and funding schedules for the incorporation of the LTN-72 commercial inertial navigation system in the P-3A/B Modernization Program. We also developed a preliminary Maintenance Plan and Operational Logistic Support Plan (OLSP) for the LTN-72.

We participated in the development of the TT-707 communication management terminal specification. Our efforts were directed primarily toward reliability and maintainability requirements of the specification and the testing and acceptance criteria to be employed.

Throughout the contract period, ARINC Research participated in a number of meetings and conferences, including:

- Program Review Meetings
- P-3A/B Modernization Transition Meeting
- P-3A/B Modernization Reserve Implementation Meeting
- Funding Apportionment Meeting
- Integrated Logistic Support Management Team (ILSMT)
- Design Review Meetings

2.4 P-3 FMS PROGRAMS

During previous contract periods, ARINC Research, at the request of PMA-240, had developed, analyzed, and reviewed program management plans and associated planning data for support of FMS programs. These efforts continued throughout the contract period covered by this report.

2.4.1 Task Description

The objective of this task was to provide program and logistics analysis to support the P-3 FMS Program.

2.4.2 Work Accomplished

ARINC Research continued to provide program planning and logistics analysis for the P-3 FMS programs. Specific efforts included the following:

- Coordinated the Update II subsystems' schedules with the Royal Australian Air Force (RAAF) requirements
- Prepared FMS program status summaries for use in various program review meetings
- Developed a computer program and established the procedures for providing timely reports on Imperial Iranian Air Force (IIAF) P-3F Ground Support Equipment (GSE) open requisition status
- Participated in the RAAF P-3C Flight Training Support Conference
- Participated in numerous RAAF P-3C Program Status Reviews
- Incorporated selected changes in the IIAF FMS GSE Master Data Lists and provided copies of the complete lists to NAEC, NAVAIR, NAVMAT, and IIAF
- Participated in the Japanese Maritime Self-Defense Force (JMSDF) P-3C Program Meeting
- Prepared presentation material for use in various FMS program meetings

2.5 CHANGE MANAGEMENT AND OSIP PROGRAMS

Under previous contracts, ARINC Research had provided assistance in evaluating selected ECPs and OSIPs, analyzing logistic requirements for ECPs and OSIPs, and developing the applicable logistics management plans. These efforts were continued throughout this contract period.

2.5.1 Task Description

The objectives of this task were to provide assistance in the evaluation of selected proposed changes, provide ILS planning recommendations, and assist in the development of financial planning data for OSIPs being considered for incorporation in the P-3 Weapon System.

2.5.2 Work Accomplished

We assisted in developing and reviewing ILS requirements and retrofit plans for ECPs being processed for submittal to the NAVAIR Aircraft Change Control Board (ACCB). We maintained an accurate accounting of the status of all P-3 ECPs in the NAVAIR review cycle and closely monitored pertinent ILS elements of ECPs approved by NAVAIR. During this contract period, 131 ECPs, OSIPs, and Rapid Action Minor Engineering Changes (RAMECs) were reviewed; 82 of these (with a value of \$94,557,034) were approved for incorporation into the P-3 aircraft. The following is a summary of the change management effort:

	<u>OSIP</u>	<u>ECP</u>	<u>RAMEC</u>
Received for Review	27	88	16
Approved	9	59	14
Cost	\$84,229,000	\$10,229,676	\$98,358

2.6 RELATED PROGRAM/LOGISTICS ACTIVITIES

During the performance of the Program Planning/ILS tasks, the need for other closely related tasks frequently became apparent. These tasks, which often required quick response, were undertaken at the direction of the Project Manager. The results of these efforts were documented in monthly progress reports, special reports, and informal briefings.

2.6.1 Task Description

The objective of this task was to perform general program and ILS planning and evaluation activities not specifically addressed under the other Program/ILS tasks.

2.6.2 Work Accomplished

2.6.2.1 Improved DIFAR Turnaround Program

ARINC Research developed an Improved DIFAR Turnaround Program Management Plan which presented the vendor schedule of "new build" and "modified" systems, the planned A/C retrofit and production installs schedule, the availability of DIFAR carcasses, the recommended schedule for inducting DIFAR carcasses into the modification program, and the recommended schedule for modifying applicable Trainers and Test Bench Installations (TBIs). In conjunction with the development of the management plan, we performed a DIFAR assets search to identify all available assets, and their location, for induction into the modification program.

2.6.2.2 Improved DIFAR Monitoring and Analysis

We continued to collect and analyze maintenance and reliability data for the Improved DIFAR Systems (AN/AQA-7(V)4,5) installed in P-3 aircraft

stationed at NAS Moffett Field. During this period, we participated in three phases of the monitoring effort:

- Phase I - covering the period from January 1976 through May 1977 and including the total transition of VP-9 and the partial transition of VP-46 and VP-31 to Update I aircraft. The end of this phase was selected to coincide with the deployment of VP-9.
- Phase II - VP-9 during the period of its deployment from June 1977 through November 1977.
- Phase III - VP-46 during the period June 1977 through January 1978, which includes its split deployment.

The results of these phases are shown in Table 1.

Table 1. IMPROVED DIFAR MONITORING RESULTS			
Phase	Operating Hours	Failures	MTBF (Hours)
Phase I (NAS Moffett Field Squadrons - 1/76 to 6/77)	9203	155	59
Phase II (VP-9 Deployed 6/77 to 12/77)	5519	90	61
Phase III (VP-46 6/77 to 2/78)	5703	60	96
Total	20425	305	67

2.6.2.3 Triple Vernier DIFAR Turnaround Program

During the latter part of this contract period, ARINC Research was tasked by PMA-240 to develop a Triple Vernier DIFAR Turnaround Program Management Plan similar to the one discussed in Subsection 2.6.2.1. This effort is currently in progress and will be continued into the next contract period.

2.6.2.4 Integrated Logistics Support Management Team (ILSMT) Meeting

In preparation for the ILSMT Meeting in January 1978, ARINC Research performed the following tasks:

- Prepared the conference agenda
- Prepared the conference organization and operation guidelines
- Prepared management aids for use during the conference

During the conference, 23 through 27 January 1978, we participated in the activities of the Steering Committee and several subcommittees.

Following the conference, we prepared and distributed the conference minutes and responded to the assigned action items.

2.6.2.5 P-3 Weapon System Financial Planning

We assisted the Project Office in identifying and prioritizing the logistic support funding requirements for APN-1 budget line items 11, 12, 13, and 15.

CHAPTER THREE

ENGINEERING ACTIVITIES

This chapter describes ARINC Research engineering efforts in support of the P-3 aircraft. These efforts, which were directed primarily toward increasing the operational effectiveness of the P-3 weapon system, encompassed the following areas:

- Data Collection/Problem Area Identification
- Field Engineering Activities
- Engineering Analyses/FIAT Activities
- Related Maintenance Engineering Activities
- P-3 Operational Readiness Activities
- P-3 Transition Programs

3.1 DATA COLLECTION/PROBLEM-AREA IDENTIFICATION

Throughout our participation in the P-3 program, we have maintained a comprehensive, continuously updated file of P-3 operational and usage data.

3.1.1 Task Description

The objectives of this task were to collect P-3 maintenance and engineering data, perform analyses to identify problem areas, and recommend candidates for further maintenance or engineering analysis.

3.1.2 Work Accomplished

During this contract period, P-3 data were processed to obtain removal rates, failure rates, usage rates, BCM rates, and other statistics of P-3 subsystems as one means of identifying problem areas. Problem areas were also identified through the close contact between our field engineers and the operating squadrons.

For each problem, the primary data source was validated to determine if the problem was fleetwide or represented an isolated occurrence. Problems reported by a field engineer were validated through 3M data; problems identified from 3M data were validated through the field engineers.

The problems were then reported to PMA-240 and other cognizant activities, both verbally and in writing. In addition to the descriptions of the problems, we provided assessments of the impacts of the problems and recommended further actions.

During the previous contract period we developed data files for the P-3B aircraft, and during this contract period we expanded the data files to include the P-3A aircraft. These files provided the basis for analyses in support of the P-3 weapon system and were used in conjunction with field engineering inputs to analyze and investigate problem areas. Principal efforts under this task were as follows:

- Processed the data files monthly to develop maintenance statistics for determining the relative impacts of P-3 subsystems on Full Systems Capability.
- Investigated and identified potential problems in spares support for the AN/ARN-99 OMEGA during the first deployment of the P-3C Update I aircraft.
- Monitored and regularly reported on the progress of efforts to alleviate a problem of shortages of T56-A-14 engines that had developed at NAS Jacksonville.
- Investigated, monitored, and regularly reported on the support problems of the RD-319A/AYA8 due to:
 - The existence of two configurations of the RD-319A (pre-baseline and baseline) and the noninterchangeability of some SRAs
 - Insufficient quantities of spares for either of the two configurations
 - Lack of assigned stock numbers, which made the ordering, tracking, and control of spare assets much more difficult
- Investigated, monitored, and regularly reported on support problems for the DIFAR and the Improved DIFAR. The principal problems were:
 - Difficulties in retaining the correct configurations of both the unimproved DIFAR and the Improved DIFAR
 - Difficulties in identifying, obtaining, and controlling assets that are form, fit, and functionally interchangeable between the two configurations but are intended for use in only one of the configurations
 - High failure rate of TRIACS in both RIP-5 and non-RIP-5 PP-7196 Power Supplies
- Investigated and monitored problems associated with the implementation of SX Intermediate Level support for the AN/ASN-84 Inertial Navigation Set at NAS Moffett Field:
 - Improper procedures used by the supported site
 - Depletion of assets due to the improper procedures
 - Identification and replacement of "lost" assets

3.2 FIELD ENGINEERING ACTIVITIES

ARINC Research continued to provide field engineering support for the P-3 program. A field engineer was provided for the full contract period at NAS Moffett Field. Field engineering support at NAS Jacksonville and NATC Patuxent River was phased out soon after the beginning of this contract period.

The field engineers performed the on-site investigations necessary for early identification of problems affecting P-3 operational readiness. This approach proved effective and was continued throughout the contract period.

3.2.1 Task Description

The objective of this task was to provide field engineering support to NAS Moffett Field and other sites, as requested.

3.2.2 Work Accomplished

During this contract period, almost every phase of our logistic support tasks involved some field engineering effort. Although the primary contributions of field engineering were the timely identification of problems affecting support of the P-3 aircraft, assistance was also provided to various on-site activities on a daily basis.

This support included day-to-day assistance to the squadrons, AIMDs, NARFs, and NAMTRADETs on publications, support equipment, maintenance concept, and supply problems. Continuous liaison was maintained with NAVAIR, ASO, NAESU, the P-3C principal contractor, and vendor personnel.

The NAVAIR P-3 Project Manager (PMA-240) and cognizant Navy activities were informed of the results of these efforts through informal briefings, monthly status reports, and special reports. The field engineers' activities during this contract period included the following:

- Provided daily assistance to NAS Moffett Field P-3 squadrons in correcting support problems affecting NOR status
- Participated in a number of P-3 aircraft modification, modernization, and improvement programs, including:
 - P-3B Modernization Program
 - P-3C Update I Program
 - P-3C Update II Program
- Collected reliability data on selected P-3C Update I and P-3B Modernization subsystems
- Assisted various NAVAIR and CNAVRES activities in transitioning squadrons and sites to the P-3 aircraft

- Assisted in locating, identifying, and effecting the transfer of support equipment items for the reserve squadrons and support activities
- Participated in program reviews, ILSMT, and aircraft transition meetings
- Assisted in solving other fleet support problems
- Assisted in implementing and monitoring the AN/ASN-84 Intermediate Level SX Support Program at NAS Moffett Field

3.3 ENGINEERING ANALYSES/FIAT ACTIVITIES

During previous contract periods, ARINC Research conducted numerous engineering analyses of selected P-3 equipment problems that were identified by on-site field engineers, through the evaluation of 3M data, or through the efforts of the Fleet Improvement Action Team (FIAT). This analysis activity was continued throughout this contract period.

3.3.1 Task Description

The objective of this task was to perform, at the direction of the P-3 Project Manager, engineering analyses on specific P-3 equipment problems. These analyses generally focused on precisely defining and "bounding" a particular problem, assessing the impact of the problem, and developing recommendations for solutions.

3.3.2 Work Accomplished

ARINC Research conducted detailed analyses of a number of P-3 equipment problems identified by evaluation of 3M data, from field engineering reports, or through FIAT activities. The analyses were conducted on the following:

- AN/AYA-8 Data Analysis Programming Group and AN/ASQ-114 Digital Computer. The maintenance data for these subsystems were analyzed to determine the BCM rates for the mother boards in the subsystems. The BCM rates were used in preparing the maintenance plans for the subsystems.
- Temperature Datum Amplifier. The maintenance data for CY-1976 were processed to determine the removals, repairs, no-defects, BCMs, and I level maintenance man-hours on each of the five versions of the Temperature Datum Amplifiers.
- Priority List for Development of Test Program Sets (TPS) for SRAs. The order of priority for developing TPSs for SRAs of selected subsystems was established on the basis of the number of BCMs of SRAs of the following subsystems:
 - "A" Boxes
 - AN/AJN-15 Flight Director System

- AN/APN-187 Doppler Navigation Set
- AN/ASA-69 Radar Scan Converter Group
- AN/AYA-8 Data Analysis Programming Group
- CV-2461 Signal Data Converter
- TD-900A/AS Time Code Generator/Decoder Display
- AN/ASN-84 Inertial Navigation Set
- Depot Transitioning Priority List. A priority list was developed for the transitioning of SRAs to organic depot support.
- Improved DIFAR Reliability. An analysis was conducted to determine why the reliability of the Improved DIFAR as calculated by ARINC Research was lower than that calculated by Magnavox.
- Downtime Trends of P-3C Subsystems. An analysis was conducted to identify the downtime trends of the top ten P-3C subsystems and to project their future trends.
- Flight Instruments. The maintenance data for P-3B/C flight instruments were analyzed to identify problem areas and corrective actions.
- Candidates for FIAT Attention. The downtime statistics for P-3C subsystems were reviewed to identify candidates for future FIAT analysis.
- Auxiliary Power Unit. The maintenance data for the APU were processed to determine the number of units BCM'd during the period August 1976 through July 1977.
- AN/ASN-84 Inertial Navigation Set. The maintenance data for the AN/ASN-84 for CY-1977 were processed to determine the current A-799 rate for WRAs removed from the aircraft for repair.
- T-56 Engine Reduction Gearbox. The maintenance data for the T-56 engine reduction gearbow were analyzed to obtain the reliability of the gear train components driving the Engine Driven Compressor. The purpose was to evaluate the potential benefits of retrofitting the uprated EDC drive components proposed for the P-3C Update III and to validate the need for the uprated drive capability in the Update III.
- Improved DIFAR AVCAL. An ARINC Research field engineer reviewed the NAS Kadena piece-part AVCAL for the Improved DIFAR and compared it with the demands observed during Improved DIFAR reliability monitoring. This was a FIAT task.
- Reliability Monitoring of Deployed Improved DIFAR. An ARINC Research field engineer prepared a plan for continuing the reliability monitoring of the Improved DIFAR during the first deployment of the equipment. This was a FIAT task.

3.4 RELATED MAINTENANCE/ENGINEERING ACTIVITIES

Under previous contracts, ARINC Research performed a variety of analyses related to the maintenance and reliability performance of selected P-3 equipments. These types of analysis tasks were continued under this contract.

3.4.1 Task Description

The objective of this task was to provide, as requested by the Project Manager, analysis support for unanticipated problems that did not fall in other, more precisely defined task areas.

3.4.2 Work Accomplished

The primary efforts under this task were as follows:

- Maintenance Plans. We prepared maintenance plans, or revisions to existing maintenance plans, for the following systems:
 - AN/ASH-20(V) Crash Locator
 - AN/ASN-84 Inertial Navigation Set
 - GTCP 95-2 Auxiliary Power Unit
 - T-56 Turboprop Engine
- ATE Management Planning. We provided analysis and planning support for the AN/USM-449(V) Automatic Test Equipment (ATE) Program as follows:
 - Prepared priority listings for the development of Test Program Sets (TPS).
 - Developed the ATE Status Summary, which includes the ATE/TPS milestone charts depicting Hardware Deliveries, TPS Development, and TPS Duplication. This status summary was updated periodically as required.
 - Prepared presentation material for, and participated in, AN/USM-449(V) ILSMT meetings and program planning workshops.
 - Analyzed progress versus schedule to identify problem areas.
 - Assisted in identification of TPS requirements, by site, through FY-82.
- ASCL Reliability Development Test. We conducted a study to estimate the duration of the Reliability Development Test for the Advanced Sonobuoy Communication Link (ASCL).

3.5 P-3 OPERATIONAL READINESS PROGRAM

Operational Readiness (OR) has continued to be a major area of interest in the P-3 community. Many programs, implemented to improve the

OR rates, have been successful in maintaining the P-3 OR rates above the CNO goal. Our involvement in these programs continued throughout the contract period covered by this report.

3.5.1 Task Description

The objective of this task was to analyze relevant OR data to identify trends and potential problem areas adversely affecting OR.

3.5.2 Work Accomplished

3.5.2.1 Operational Readiness Analysis

ARINC Research continued the analysis of P-3 OR data to identify trends in the operational readiness of the P-3 aircraft and identify factors that could affect NORS, NORM, RMC, or FSC rates. We maintained a comprehensive data file of OR data obtained from both LANT and PAC squadrons. We analyzed the data to identify OR trends of active and reserve squadrons, including various combinations of active squadrons, and we presented the results of these analyses to PMA-240 and AIR-4101B3.

3.5.2.2 P-3 Downtime Analysis

Under the prescribed procedures for reporting the aircraft readiness posture (OPNAVINST 5442.2C Aircraft Accounting System), it is not possible to report multiple NOR/RMC conditions on the same aircraft. As a consequence, data summaries prepared from ESD reports may give an incomplete picture of the failed equipment that must be returned to operating condition before that aircraft can be considered operationally ready. During this contract period, ARINC Research analyzed 3M data to identify the MESL subsystems that contribute most to the degradation of the P-3C from full systems capability and, consequently, are responsible for most of the downtime. This analysis eliminates the inherent "masking" effect of the summary reports prepared from ESD source data. The statistics of down hours per flight hour and maintenance actions per flight hour for the MESL subsystems were calculated for each of the following categories of maintenance actions:

- On-Aircraft Repair
- Off-Aircraft Repair (Remove and Replace)
- Off-Aircraft Repair (Cannibalization Time)

In addition, calculations were made of the average delay in receiving replacements for items removed for repair. Examples of the results of these analyses are shown in Tables 2, 3, and 4, and Figures 1 through 6. (To permit continuity in the narrative, these tables and figures are presented at the end of this chapter, starting on page 20.)

3.6 P-3 TRANSITION PROGRAMS

Ensuring smooth transition of squadrons into new aircraft types requires thorough planning, continuous monitoring of progress, and early identification of problems. During previous contract periods ARINC Research provided ILS analysis and planning and progress monitoring support for the transition of the Reserves into the P-3A aircraft and the transition to the P-3C Update II aircraft at NAS Brunswick. These activities were continued during this contract period and were expanded to include the transition of the P-3B Modernization aircraft at NAS Barbers Point.

3.6.1 Task Description

The objective of this task was to provide program/ILS analysis and planning for the Transition Programs.

3.6.2 Work Accomplished

3.6.2.1 Reserves P-3A Transition Program

ARINC Research provided ILS analysis and planning, and other support as required, for the transitioning of Reserve squadrons into the P-3A and for the activation of a new Reserve P-3A squadron at NAS Memphis. Specific activities included the following:

- Analyzed requirements, monitored progress, and reported status of the IMRL/AVCAL build-up at NAS Memphis
- Assisted in locating and arranging transfer of custody of GSE and spares for the Reserve P-3A squadrons
- Participated in on-site reviews and planning conferences
- Assisted in the preparation of the Reserve P-3 Mobile Facility Update Plan

3.6.2.2 NAS Brunswick P-3C Update II Transition Program

ARINC Research provided ILS analysis and planning, and other support as required, for the transitioning of the NAS Brunswick squadrons from the P-3B into the P-3C Update II aircraft. Specific activities in support of the program included the following:

- Updated the NAS Brunswick Update II Transition Plan as required
- Assisted in preparing for, and participated in, Site Transition Conferences for NAS Brunswick, NS Keflavik, and NAS Bermuda/NAF Lajes
- Monitored the progress of transition preparations and reported problems to interested organizations
- Assisted in developing solutions to logistics and scheduling problems related to the Update II Transition Program

3.6.2.3 NAS Barbers Point P-3B Modernization Transition Program

ARINC Research provided ILS analysis and planning, and other support as required, for the transitioning of the NAS Barbers Point squadrons into the P-3B Modernization aircraft. Specific activities in support of the program were as follows:

- Prepared, and updated as required, the NAS Barbers Point Transition Plan
- Monitored the progress of transition preparations and reported problems to interested organizations
- Assisted in preparing for, and participated in, Site Transition Conferences

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Table 2. P-3A SUBSYSTEM CUMULATIVE DOWN HOURS PER FLIGHT HOUR: FIRST 25 SUBSYSTEMS - 09/77 THROUGH 11/77

STATISTICS BREAKDOWN BY MAINTENANCE ACTION TAKEN													
RANK IN 35	DOWN DES TIME SUM	JNT CODE	SUBSYSTEM NOMENCLATURE	ON-AIRCRAFT CODE C *			OFF-AIRCRAFT CODE D *			OFF-AIRCRAFT CODE R *			AVG DAYS TO OBTAIN A REPLACE ITEM **
				DOWN- HOURS	MAINT ACTNS		DOWN- HOURS	MAINT ACTNS		DOWN- HOURS	MAINT ACTNS		
1	4	7399	AN/PAR-72 MINIATURE SMC R/V	32.523	0.096	2.0	16.681	10.6	15.745	11.6	115.6		
2	2	7378	AN/ASA-7 SWIR COMPTE RECORDER	17.575	0.779	9.1	8.104	11.7	8.792	43.4	16.2		
3	3	7274	AN/AS-40 SEARCH RADAR SET	9.141	1.680	15.8	1.594	2.2	5.867	22.3	13.9		
4	18	4111	AIR CYCLE SYSTEM	9.091	1.244	15.4	0.953	1.6	6.893	8.8	36.8		
5	11	7352	AN/ASN-42 INERTIAL NAV SET	9.477	0.343	3.8	2.596	6.5	5.537	47.3	7.1		
6	1	723	T-56 ENGINE	8.234	3.604	43.0	1.130	3.4	3.499	13.2	14.5		
7	10	242	AUXILIARY POWER PLANT (1)	5.943	1.570	10.9	2.125	3.3	2.247	7.0	25.9		
8	16	7317	AN/ASA-16 INDICATOR GROUP	4.462	0.379	5.3	1.925	3.6	2.157	18.2	9.3		
9	73X1		RCMR NAV ASSOC EQUIPMENT	3.961	0.130	2.4	2.215	3.1	1.645	9.9	16.2		
10	6	3214	DOBBELER CONTROLS	3.773	1.491	17.8	0.926	2.4	1.355	11.4	8.3		
11	17	7324	AN/ASA-47 NAV COMPUTER GROUP	3.730	0.213	1.6	1.577	4.1	1.939	20.3	7.1		
12	9	5211	PR200 AUT FLIGHT CONTROL	3.597	0.233	2.3	1.772	3.4	2.592	13.7	10.1		
13	7216		AN/ASN-125 INDICATOR GROUP	3.587	0.311	6.3	1.324	3.0	1.951	18.3	7.4		
14	14	7362	AN/ASO-17 MAG DETECTING SET	3.412	0.503	2.8	0.946	0.8	1.962	10.2	11.8		
15	19	2951	IGNITION/STARTING COMPONENTS	3.112	0.513	5.2	0.779	2.8	1.819	6.6	16.1		
16	5	7238	AN/ASN-153 DOPPLER NAV SET	2.891	0.233	2.4	1.043	2.2	1.615	16.8	6.5		
17	13	5111	FLIGHT INDICATORS	2.880	0.312	3.0	1.147	4.5	1.420	9.5	11.2		
18	7511		KILL STORES, MECH COMP (WING)	2.788	0.065	0.2	0.007	0.0	2.715	1.6	67.0		
19	5121		NAVIGATION INDICATORS	2.687	0.244	2.9	0.396	3.4	2.045	5.9	17.0		
20	7236		AN/ASN-141 ELECTRONIC ALTIM	2.597	0.129	2.0	0.790	1.5	1.677	21.9	4.6		
21	7524		MARTINE MARKER EJECT/STOW BIN	2.537	0.138	1.2	1.206	0.4	1.192	0.8	112.7		
22	5151		FUEL QUANTITY COMPONENTS	2.410	0.677	6.5	0.456	0.7	1.275	6.6	10.9		
23	4211		PRIMARY AC GENERATION	2.371	0.382	3.0	0.464	1.9	1.523	10.1	8.1		
24	7517		AN/ALD-2 DISCRETE FINDER SET	2.316	0.279	2.2	0.891	0.7	1.145	4.8	17.5		
25	61X1		HF COMMUNICATIONS ASSOC. EQUIP.	2.235	0.047	1.1	1.487	1.6	0.700	5.8	15.7		
TOP 25 TOTALS				146.443	15.578	169.3	51.547	77.5	79.317	347.3	15.6		
OTHER SUBSYSTEMS				107.912	28.421	323.6	21.452	53.4	49.682	314.6	9.4		
ALL SUBSYSTEMS				247.356	44.000	493.0	73.000	131.0	129.000	662.0	12.7		

* DOWN HOURS PER FLIGHT HOUR, MAINTENANCE ACTIONS PER 1,000 FLIGHT HOURS
(CODE U HOURS + CODE R HOURS) / (24 X CODE R ACTIONS)

(1) 10 2422 APP FUEL SYSTEM
20 2421 APP BASIC ENGINE

Table 3. P-3B SUBSYSTEM CUMULATIVE DOWN HOURS PER FLIGHT HOUR: FIRST 25 SUBSYSTEMS - 10/77 THROUGH 12/77

STATISTICS BREAKDOWN BY MAINTENANCE ACTION TAKEN													
RANKINGS		WORK INIT CODE		SUBSYSTEM NOMENCLATURE		CN-AIRCRAFT CODE C *		OFF-AIRCRAFT CODE U *		OFF-AIRCRAFT CODE R *		AVG DAYS TO OBTAIN A REPLACE ITEM **	
DOWN	DEG	SUM	TIME			TOTAL DOWN- HOURS PER FLIGHT HOUR	DOWN- HOURS	MAINT ACTNS	DOWN- HOURS	MAINT ACTNS	DOWN- HOURS	MAINT ACTNS	
1	9	7399		AN/APG-72 MINIATURE SOND RCVR		12.528	0.258	2.9	5.341	9.1	6.927	9.5	53.6
2	1	223		T-56 ENGINE		4.879	2.710	44.9	0.531	2.4	1.637	14.8	6.0
3	2	7378		AN/APG-7 SONAR COMPTA RECORDER		4.866	0.830	12.4	2.068	19.8	1.968	53.8	3.1
4	4	4111		AIR CYCLE SYSTEM		3.388	0.821	14.5	1.047	2.5	1.519	9.6	11.0
5	3	7274		AN/APG-80 SEARCH RADAR SET		3.284	1.411	18.3	0.452	2.1	1.420	26.0	2.9
6	6	699C		AN/ASH-22 SIG DATA SOUND PCDS		2.986	0.039	0.8	0.570	0.3	2.377	2.3	51.5
7	5	242		AUXILIARY POWER PLANT (1)		2.829	0.801	8.9	1.124	3.0	0.904	8.2	10.2
8	3	7352		AN/ASN-42 INERTIAL NAV SET		2.549	0.237	6.3	1.046	8.4	1.265	51.2	1.8
9	5	5121		NAVIGATION INDICATORS		2.363	0.152	2.1	0.888	2.2	1.321	7.0	12.9
10	25	7381		AN/ASN-133 DOPPLER NAV SET		2.348	0.111	3.0	1.081	4.4	0.856	10.9	7.3
11	6	8211		PR20N NAV ASSOC EQUIPMENT		2.021	0.208	2.2	0.342	4.4	1.471	17.0	4.4
12	21	7317		AN/ASA-16 INDICATOR GROUP		1.921	0.345	8.0	0.517	6.0	1.057	31.5	2.0
13	17	5111		FLIGHT INDICATORS		1.839	0.145	4.9	0.669	4.0	1.024	10.0	7.0
14	4	8214		PEPPERELL CONTROLS		1.801	0.845	18.7	0.243	2.3	0.712	11.2	3.5
15	13	7238		AN/APN-153 DOPPLER NAV SET		1.631	0.073	2.4	0.512	5.5	1.046	23.1	2.8
16	14	7521		PNEUMATIC SYSTEM		1.603	0.038	0.9	1.099	1.9	0.465	1.4	44.6
17	7236			AN/APN-141 ELECTRONIC ALTIM		1.563	0.083	2.6	0.558	5.3	0.922	23.5	2.6
18	11	7362		AN/ASQ-13 MAS DETECTING SET		1.430	0.336	3.7	0.398	2.8	0.694	18.9	2.4
19	4	4121		CASIN PRESSURE CONTROL SVS		1.401	0.078	1.0	0.208	0.8	1.113	4.1	13.3
20	2962			APCRAFT EXHAUST COMPONENTS		1.374	0.733	8.6	0.063	0.5	0.576	3.6	7.3
21	7522			SYNCHRONY SYSTEM		1.369	0.335	3.9	0.002	0.2	1.031	2.8	15.0
22	7324			AN/ASA-47 NAV COMPUTER GROUP		1.278	0.100	1.9	0.207	5.7	0.971	36.8	1.3
23	16	2951		IGNITION/STARTING COMPONENTS		1.249	0.450	6.9	0.429	1.6	0.370	4.4	7.5
24	769C			KILL STORES CONTROL		1.196	0.071	0.5	0.552	1.5	0.572	2.3	20.1
25	23	5151		FUEL QUANTITY COMPONENTS		1.103	0.416	9.4	0.049	0.6	0.638	7.3	3.9
TOP 25 TOTALS						64.511	11.636	190.8	20.006	98.5	32.868	392.4	5.6
OTHER SUBSYSTEMS						67.519	26.363	394.1	10.993	75.4	28.131	364.5	4.4
ALL SUBSYSTEMS						132.031	38.000	585.0	31.000	174.0	61.000	757.0	5.0

* DOWN HOURS PER FLIGHT HOUR, MAINTENANCE ACTIONS PER 1,000 FLIGHT HOURS
(CODE U HOURS + CODE R HOURS) / (24 X CODE R ACTIONS)

(1) 5 2422 APP FUEL SYSTEM
8 2421 APP BASIC ENGINE

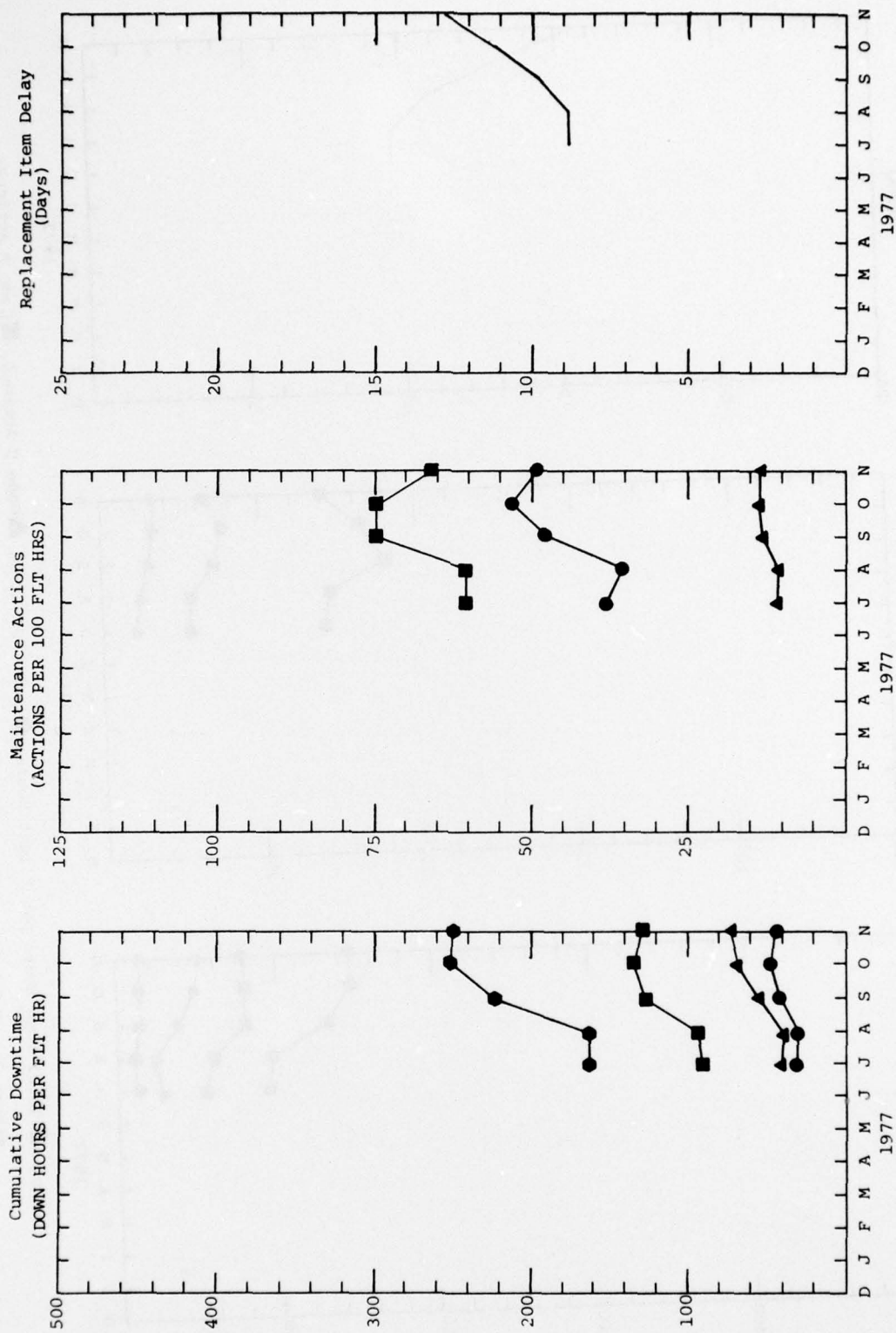
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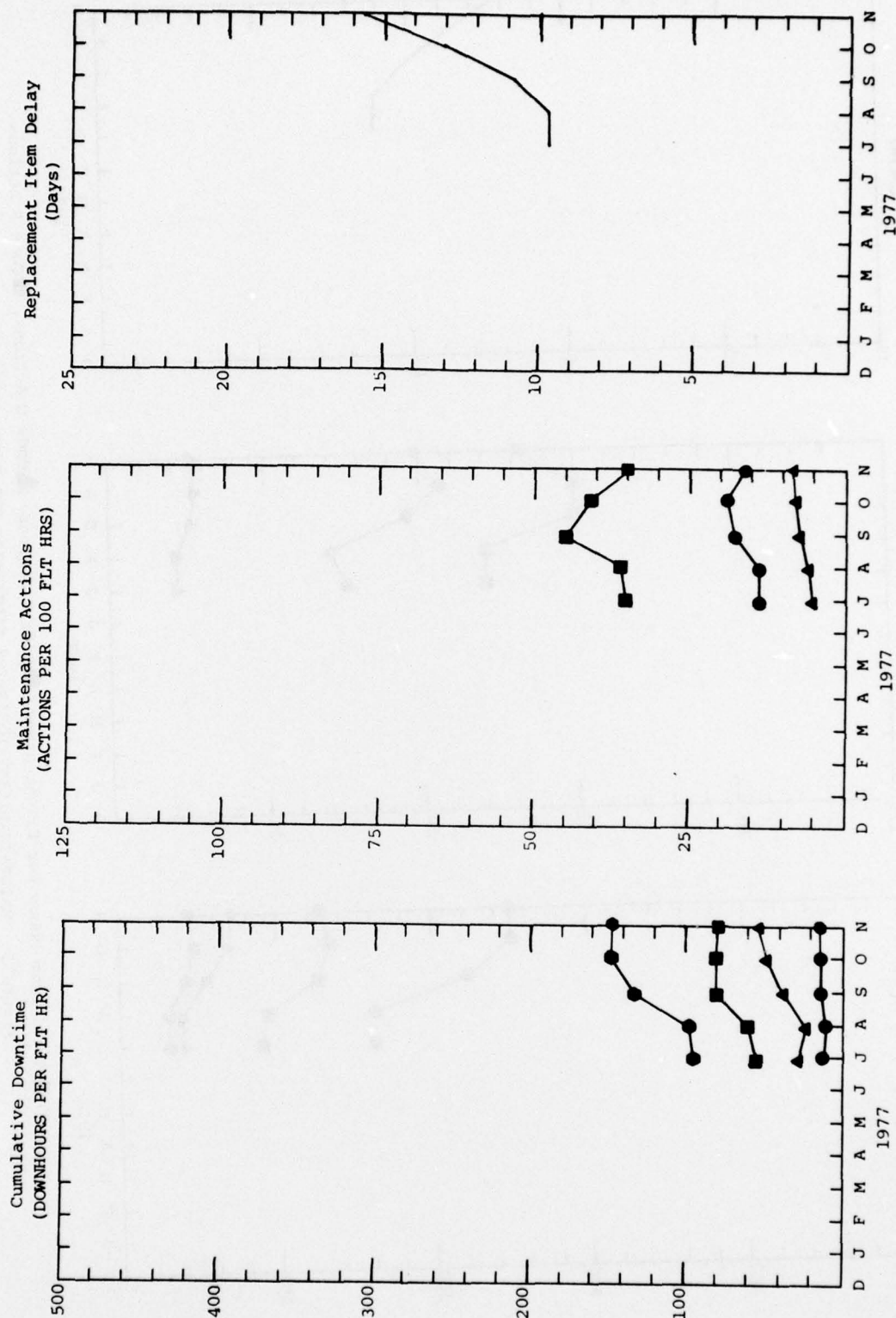
Table 4. P-3C SUBSYSTEM CUMULATIVE DOWN HOURS PER FLIGHT HOURS: FIRST 25 SUBSYSTEMS - 10/77 THROUGH 12/77

STATISTICS BREAKDOWN BY MAINTENANCE ACTION TAKEN													
RANKINGS		DOWN-DEG		TIME SUM		EN-AIRCRAFT		OFF-AIRCRAFT		OFF-AIRCRAFT		AVG DAYS	
		UNIT		CODE		CODE C *		CODE U *		CODE R *		TO OBTAIN	
						DOWN-MAINT		DOWN-MAINT		DOWN-MAINT		A REPLACE	
						HOURS ACTNS		HOURS ACTNS		HOURS ACTNS		ITEM **	
						TOTAL DOWN-FLIGHT HOUR							
1	19	7399	AN/AR-72	MINIATURE SENS PUMP	9.423	3.261	3.645	5.7	5.513	8.2	46.0		
2	6	6912	AN/ASQ-5	DATA TERMINAL SET	9.347	3.298	2.111	4.3	5.837	10.7	23.0		
3	24	7379	AN/AR-7	SOVER COMPUTE REFLECTOR	9.147	3.736	2.953	22.4	2.457	56.0	4.0		
4	4	7341	ECMB	NAV ASSOC EQUIPMENT	5.822	3.195	1.762	4.3	3.840	14.1	16.5		
5	1	223	T-50	ENGINE	5.778	1.715	1.833	4.4	2.226	9.6	17.4		
6	9	7366	AN/ASA-8	DATA ANAL PROG SET	5.343	3.635	2.203	3.7	2.504	8.6	22.6		
7	4	6182	FF CMM	ASSOC EQUIPMENT	4.370	3.216	3.164	8.3	0.650	6.5	24.5		
8	12	7328	AN/ASA-70	TACTICAL DATA DISP	3.319	0.467	1.963	5.5	0.859	11.4	10.3		
9	8	6128	AN/AR-161	HF RADIO SET	2.864	3.202	1.577	8.4	1.083	12.2	9.0		
10	4111	AIP	CYCLE SYSTEM		2.839	3.604	1.310	2.8	0.519	6.2	14.8		
11	23	242	AUXILIARY POWER PLANT		2.750	3.766	0.816	2.1	1.167	5.3	15.5		
12	7367	AN/ASQ-114	DIGITAL COMPUT-ER		2.680	3.218	3.416	1.0	1.545	6.2	15.7		
13	5738	AN/ASW-31	AUTO FLIGHT CONTROL		2.679	3.232	1.047	4.1	1.400	7.2	14.0		
14	5641	FLIGHT REF	ASSOC EQUIPMENT		2.670	0.062	0.574	1.8	1.632	3.2	33.6		
15	2	7661	AN/ALQ-78	COURTHERM SUPERS SET	2.656	3.400	1.311	3.0	0.944	3.4	27.5		
16	11	7264	AN/APS-115	SEARCH RADAR SET	2.518	3.739	3.891	3.5	0.457	11.8	6.5		
17	14	3214	PROPELLER CONTROLS		2.173	0.428	0.946	4.2	0.758	10.5	6.9		
18	21	734F	AN/ASN-84	INERTIAL NAV SET	2.070	0.349	0.953	6.3	0.768	17.4	4.1		
19	6328	AN/APC-143	UHF RADIO SET		1.632	3.115	0.678	2.2	0.804	6.3	9.7		
20	7511	KILL STORES, MECH COMP (MAG)			1.542	3.047	0.500	0.0	1.494	1.1	53.4		
21	5131	TACHIMETER			1.501	3.018	0.718	2.9	0.763	5.0	12.1		
22	7	7389	AN/EJH-4	SOUND BOMB REPORT	1.382	3.032	0.948	4.4	0.401	5.8	9.6		
23	2451	IGNITION/STARTING COMPONENTS			1.357	3.423	0.717	1.9	0.402	3.4	13.5		
24	5111	FLIGHT INDICATORS			1.327	0.663	0.555	1.5	0.704	4.1	12.6		
25	3212	PROPELLER ASSOC STRUCTURE COMP			1.262	3.507	0.284	0.9	0.470	2.9	10.7		
TOP 25 TOTALS					82.181	9.770	33.823	111.3	36.587	238.2	12.6		
OTHER SUBSYSTEMS					65.990	19.230	21.176	86.6	23.412	220.7	8.4		
ALL SUBSYSTEMS					148.172	29.000	55.000	192.0	60.000	459.0	10.6		

* HOURS PER FLIGHT HOUR, MAINTENANCE ACTIONS PER 1,000 FLIGHT HOURS
** (CODE U HOURS + CODE R HOURS) / (24 X CODE P ACTIONS)

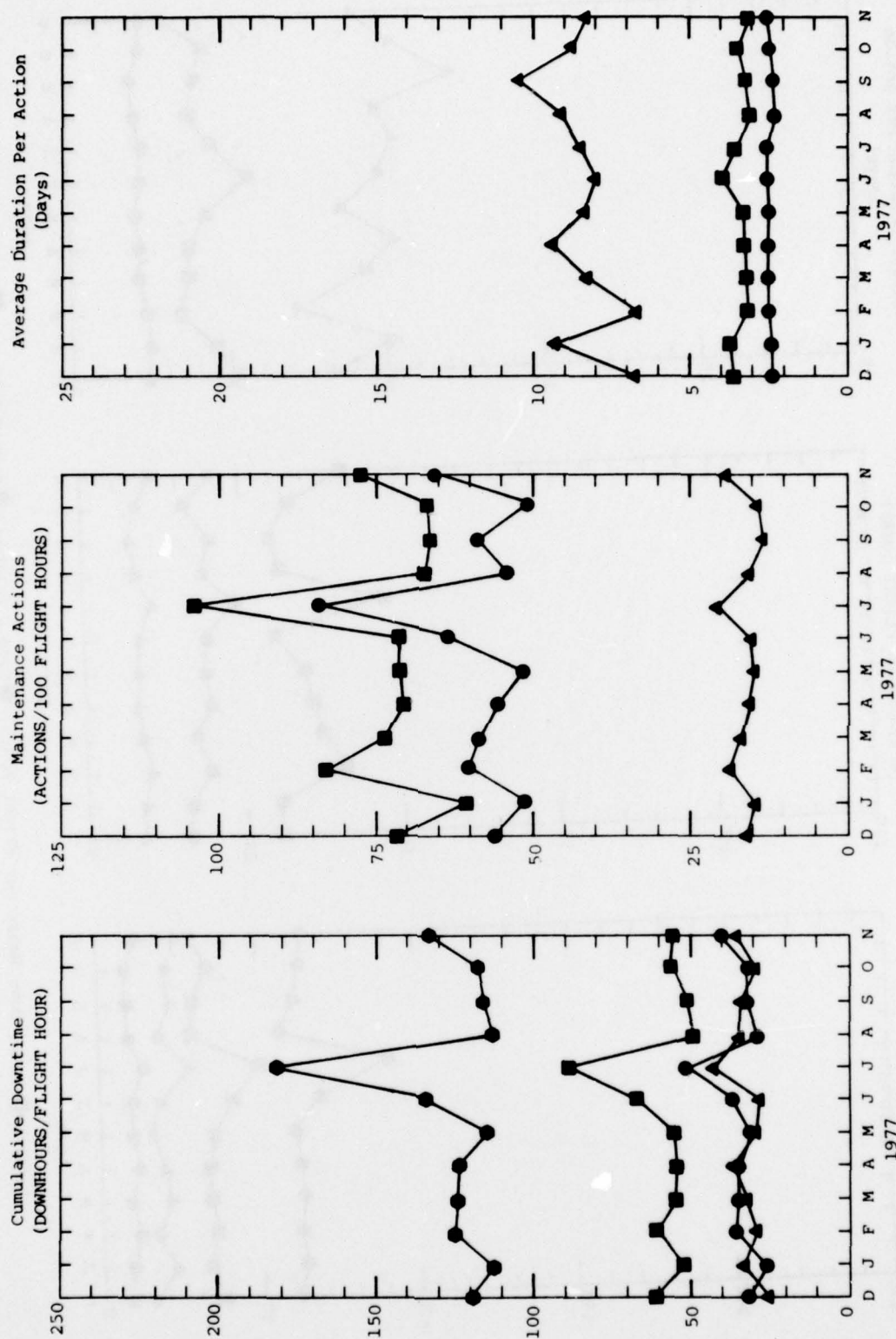


Legend: ● Total Down Hours per Flight Hours, ● Code C Actions, ▲ Code U Actions, ■ Code R Actions
 Figure 1. MAINTAINABILITY/LOGISTICS STATISTICS FOR P-3A, ALL SUBSYSTEMS

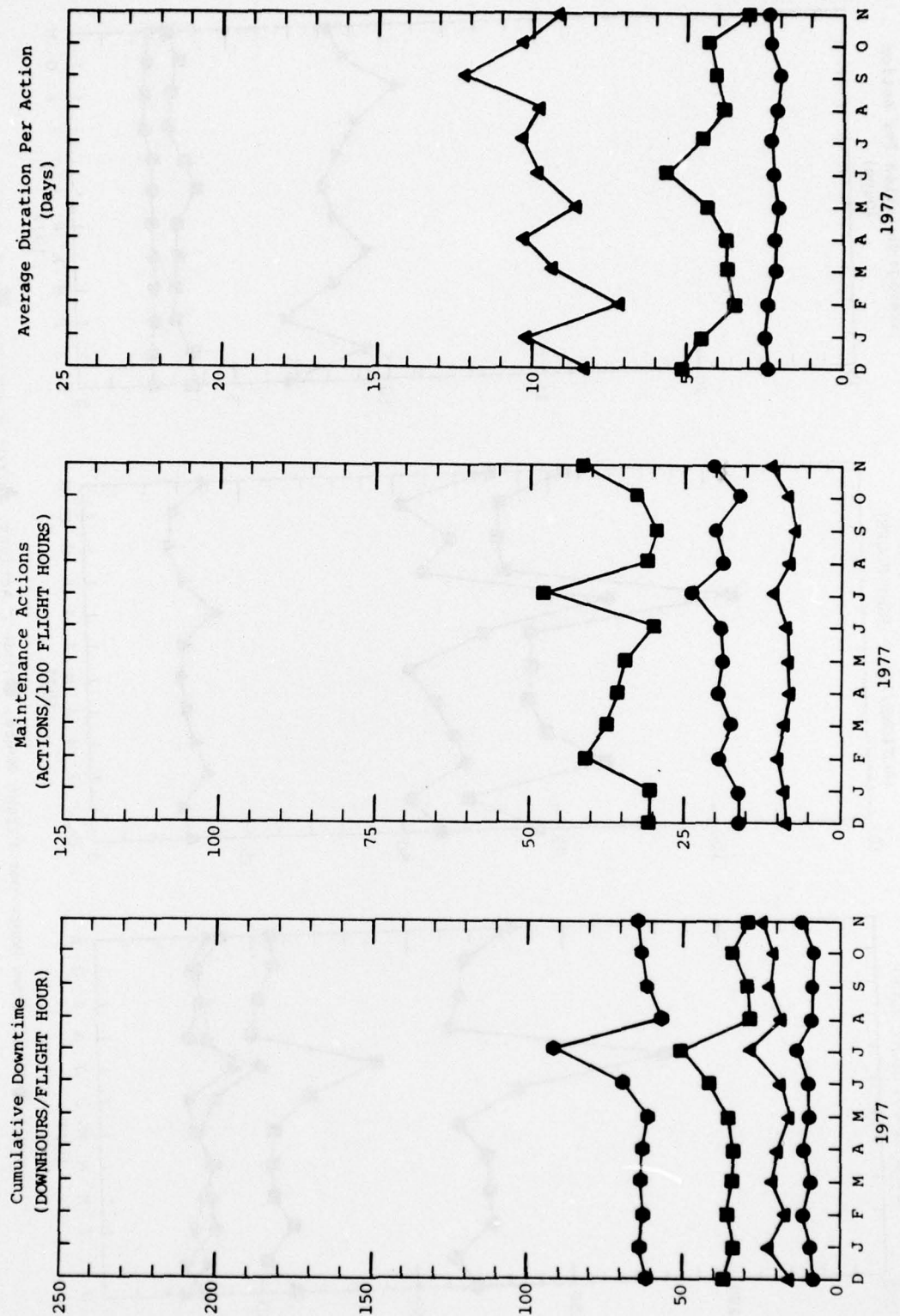


Legend: ● Total Down Hours per Flight Hours, ● Code C Actions, ▲ Code U Actions, ■ Code R Actions

Figure 2. MAINTAINABILITY/LOGISTICS STATISTICS FOR P-3A, TOP 25 MESL SUBSYSTEMS

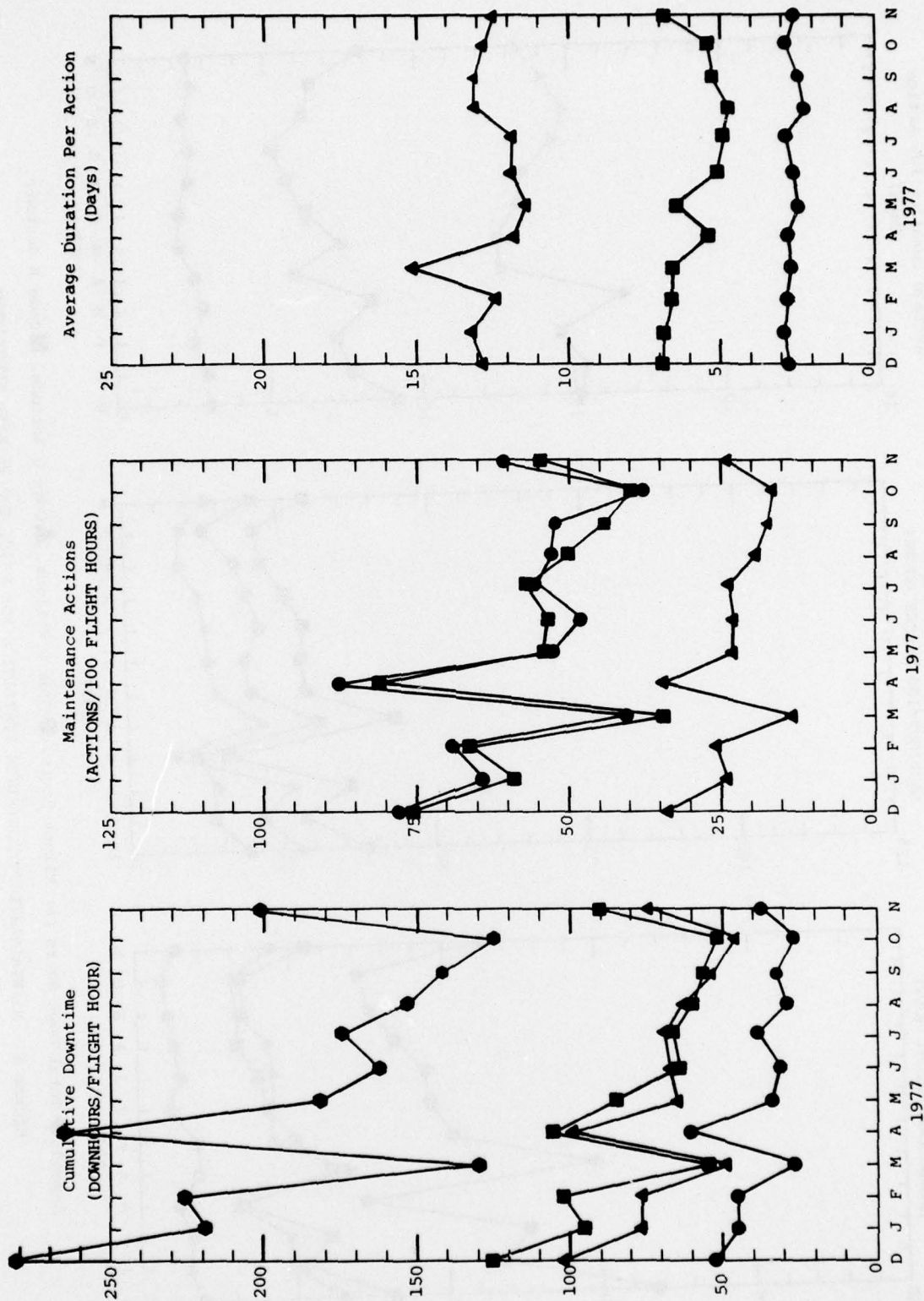


Legend: ● Total Down Hours per Flight Hours, ● Code C Actions, ▲ Code U Actions, ■ Code R Actions
 Figure 3. MAINTAINABILITY/LOGISTICS STATISTICS FOR P-3B, ALL SUBSYSTEMS



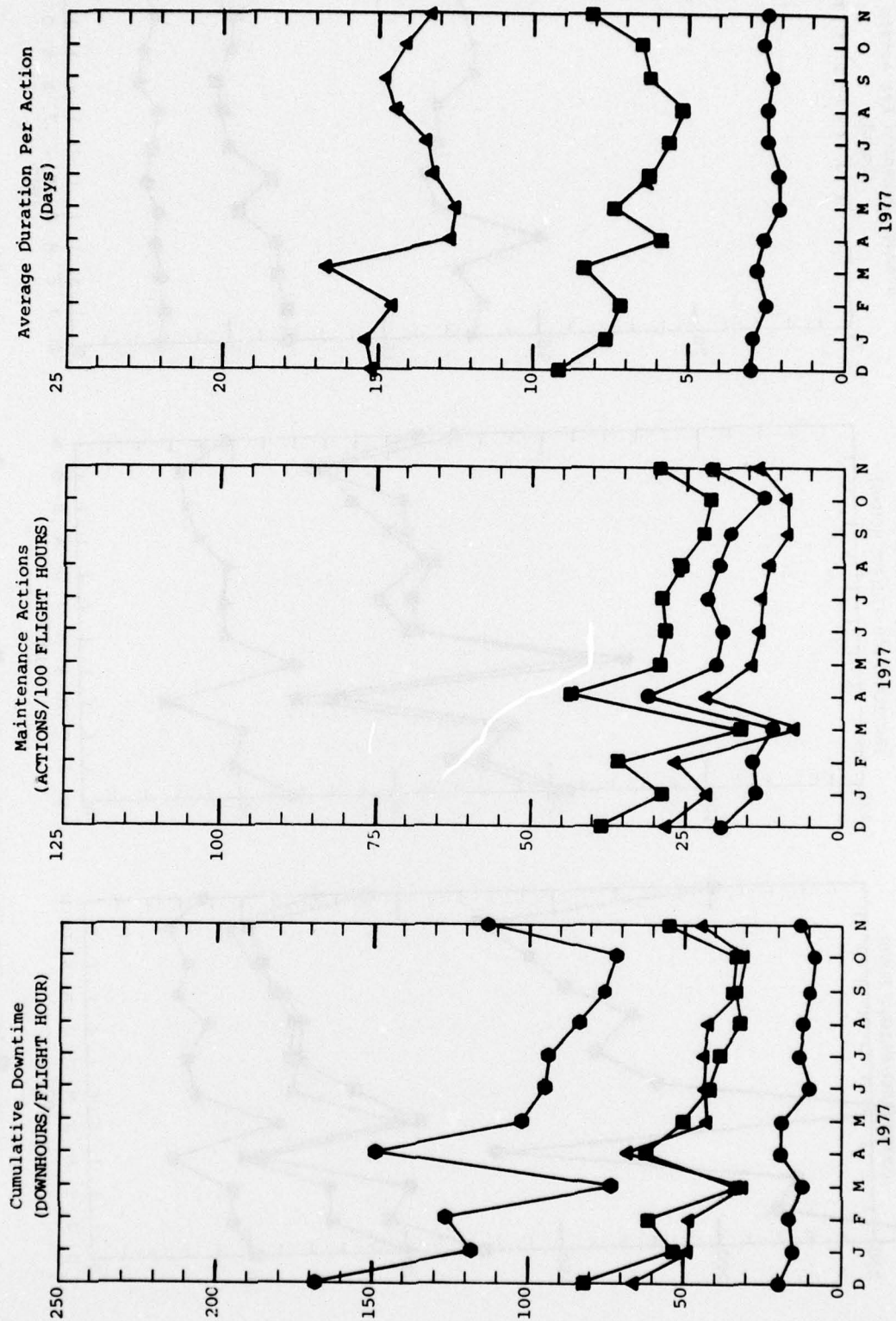
Legend: ● Total Down Hours per Flight Hours, ● Code C Actions, ▲ Code U Actions, ■ Code R Actions

Figure 4. MAINTAINABILITY/LOGISTICS STATISTICS FOR P-3B, TOP 25 MELS SUBSYSTEMS



Legend: ● Total Down Hours per Flight Hours, ● Code C Actions, ▲ Code U Actions, ■ Code R Actions

Figure 5. MAINTAINABILITY/LOGISTICS STATISTICS FOR P-3C, ALL SUBSYSTEMS



Legend: ● Total Down Hours per Flight Hours, ● Code C Actions, ▲ Code U Actions, ■ Code R Actions

Figure 6. MAINTAINABILITY/LOGISTICS STATISTICS FOR P-3C, TOP 25 MESL SUBSYSTEMS

APPENDIX

DATA SUBMISSIONS
UNDER CONTRACT N00019-77-C-0309

All data submissions made during the contract period are listed on the following pages.

Item No.	Description	How Submitted	Date Submitted	Submitted to
1.	P-3A/B Modernization Program Status Summary	Hand-carried	3/4/77	PMA-240B
2.	Draft Copy of Revision A to the AN/ASH-20(V) Maintenance Plan, AVMP-025A	Letter ASG/OSP/A&V-77-39	3/9/77	AIR-4112C2
3.	Minutes of P-3C Update III Configuration Planning Meeting	Hand-carried	3/14/77	PMA-240
4.	AN/ARN-99(V)1 OMEGA Interim Support Plan for P-3B Modernized Aircraft	Letter ASG/OSP/A&V-77-30	3/14/77	AIR-4101B3
5.	Improved DIFAR Turnaround Program (Schedule)	Letter ASG/OSP/A&V-77-42	3/21/77	AIR-4101B3
6.	ATE Management Program (Charts)	Letter ASG/OSP/A&V-77-46	3/23/77	AIR-4101B3
7.	Minutes of the PDR Meeting on P-3A/B Mod Commercial INS Installation	Hand-carried	4/15/77	PMA-240B
8.	Monthly Progress Report	Letter ASG/OSP/A&V-77-52	4/15/77	PMA-240
9.	P-3A/B Modernization Program Transition Planning	Letter ASG/OSP/A&V-77-54	4/18/77	AIR-4101B3
10.	AN/ARN-99(V)1 OMEGA Interim Support Plan for P-3B Modernized Aircraft	Letter ASG/OSP/A&V-77-56	4/27/77	AIR-4101B3
11.	Minutes of the PDR Meeting on P-3A/B LTN-72 Installation	Hand-carried	4/29/77	PMA-240B
12.	Depot Transitioning Priority List	Letter ASG/OSP/A&V-77-59	5/10/77	AIR-4101B3
13.	Temperature Datum Amplifier Maintenance Statistics	Letter ASG/OSP/A&V-77-60	5/10/77	PMA-240
14.	Search for AQA-7/ASA-76 Ship Sets Not in Use, Results of	Letter ASG/OSP/A&V-77-024	5/12/77	PMA-240
15.	Monthly Progress Report	Letter ASG/OSP/A&V-77-62	5/15/77	PMA-240
16.	Piece Part Requisition Analysis for AN/AQA-7	Letter ASG/OSP/A&V-77-62	5/15/77	PMA-240
17.	P-3A/B Modernization Status Summary	Hand-carried	5/23/77	PMA-240
18.	P-3C Update III Program Budget Requirements	Letter ASG/OSP/A&V-77-66	5/24/77	PMA-240
19.	AN/AQA-7 FIAT Action/Progress Reports	Letter ASG/OSP/A&V-77-68	6/1/77	NARFA Code 305
20.	First P-3B MOD Software Configuration Review Board (SCRB) Meeting	Letter ASG/OSP/A&V-77-70	6/2/77	AIR-5331
21.	P-3C Update III Budget Requirements	Hand-carried	6/3/77	PMA-240, etc.
22.	AN/AQA-7(V)4 Reliability	Letter ASG/OSP/A&V-77-71	6/7/77	PMA-240
23.	P-3C Update III, AU and DCS, Interim Support Assumptions	Letter ASG/OSP/A&V-77-74	6/9/77	AIR-4101B3
24.	Preliminary IRDS PRDR Action Items	Hand-carried	6/9/77	PMA-240
25.	Preliminary Minutes of the IRDS PRDR	Hand-carried	6/13/77	AIR-533D4P
26.	Thirteenth P-3C Update II Hardware Design Management Team (HDMT) Meeting	Letter ASG/OSP/A&V-77-76	6/13/77	PMA-240A1
27.	Preliminary APU (-3) Program and Logistics Schedule	Hand-carried	6/17/77	AIR-4101B3, etc.
28.	Preliminary Agenda for the Second P-3C Update III SMT Conference	Hand-carried	6/23/77	AIR-53303G, etc.
29.	Maintenance Plan, Auxiliary Power Unit, Model GTCF 95-2	Letter ASG/OSP/A&V-77-81	6/27/77	AIR-4114B4
30.	P-3 ATE/TPS Work Shop	Letter ASG/OSP/A&V-77-67	6/27/77	AIR-4101B3
31.	Final Minutes of the IRDS PRDR	Hand-carried	6/28/77	AIR-533D4P
32.	P-3C Update III Interim Support Requirements	Hand-carried	6/28/77	AIR-4101B3
33.	Preliminary AN/ALQ-78 Program and Logistics Schedule	Hand-carried	6/29/77	PMA-240, etc.
34.	Preliminary Schedule for P-3A/B MOD MTT Retrofit	Hand-carried	6/30/77	PMA-240B

(continued)

Item No.	Description	How Submitted	Date Submitted	Submitted to
35.	P-3C Update II Hardware Development Management Team Meeting No. 14 Agenda	Hand-carried	7/4/77	PMA-240
36.	Minutes of the First P-3C Update III System Management Team Conference	Hand-carried	7/6/77	PMA-240
37.	P-3C Update II Program Status Summary	Hand-carried	7/8/77	PMA-240
38.	P-3C Update III Systems Management Team Conference No. 2 Agenda	Hand-carried	7/14/77	PMA-240
39.	Second P-3A/B Modernization Program Reserve Implementation Meeting Summary	Letter ASG/OSP/A&V-77-87	7/20/77	PMA-240B
40.	T-56 Engine FIAT Action/Progress Reports	Letter ASG/OSP/A&V-77-90	7/20/77	NARF Alameda (331)
41.	P-3C Update III Program Status Summary	Hand-carried	7/20/77	PMA-240
42.	Monthly Progress Report	Letter ASG/OSP/A&V-77-93	7/26/77	PMA-240
43.	Improved DIFAR Turnaround Program Management Plan	Letter ASG/OSP/A&V-77-89	8/16/77	PMA-240
44.	Update III Logistics Support Cost Estimate	Letter ASG/OSP/A&V-77-96	8/25/77	PMA-240
45.	Computer Printout - IIAF GSE	Hand-carried	8/18/77	NAEC
46.	Monthly Progress Report	Letter ASG/OSP/A&V-77-98	9/6/77	PMA-240
47.	P-3C Update III Action Item Summary	Hand-carried	8/1/77	PMA-240
48.	Status of P-3C Update III Program ILS Action Chits	Hand-carried	8/25/77	AIR-4101B3
49.	Minutes of P-3C Update III SMT Meeting No. 2	Hand-carried	9/2/77	PMA-240
50.	Monthly Progress Report	Letter ASG/OSP/A&V-77-98	9/2/77	PMA-240
51.	P-3C Update II Program Status Summary	Hand-carried	9/9/77	PMA-240
52.	FY-78 Budget Requirements	Letter ASG/OSP/A&V-77-100	9/12/77	PMA-240
53.	IIAF FMS Master Data List	Hand-carried	9/12/77	NAEC
54.	Monthly Progress Report	Letter ASG/OSP/A&V-77-102	9/21/77	PMA-240
55.	Agenda for P-3C Update III SMT Meeting No. 3	Hand-carried	9/20/77	PMA-240
56.	P-3C Update III Program Status Summary	Hand-carried	9/29/77	PMA-240
57.	Presentation Material for P-3C Update III SMT Meeting No. 3	Hand-carried	9/30/77	PMA-240
58.	Alternative P-3C Update III Program Schedule	Hand-carried	9/29/77	PMA-240
59.	P-3C Update III Program Description (for Preparation of Procurement Plan)	Hand-carried	9/29/77	PMA-240
60.	Logistics Support Cost Estimates for P-3C Retrofit	Letter ASG/OSP/A&V-77-103	9/30/77	PMA-240
61.	P-3 Avionics Support Program	Letter ASG/OSP/A&V-77-107	9/27/77	PMA-240
62.	Avionics Maintenance Plan for AN/ASN-84 Inertial Navigation System, AVMP-104 Revision B	Letter ASG/OSP/A&V-77-109	10/6/77	AIR-4112C1
63.	Avionics Maintenance Plan for Flight Recorder-Locator System, AN/ASH-20(V), AVMP-025A	Letter ASG/OSP/A&V-77-108	10/7/77	AIR-4112
64.	Assessment of Expected Test Hours/Month for ASCL Receiver/Antenna during Reliability Testing	Letter ASG/OSP/A&V-77-112	10/11/77	PMA-240
65.	Status of P-3C Update III Program Action Items	Hand-carried	10/11/77	PMA-240
66.	Evaluation of ASCL Receiver and Antenna Reliability Testing Program (Update III Action Item 3-16)	Hand-carried	10/11/77	PMA-240
67.	Inputs to P-3C Update III Procurement Plan	Hand-carried	10/12/77	PMA-240
68.	Evaluation of LCC Reliability Guarantee Proposal for the LTN-72 DDU	Hand-carried	10/17/77	PMA-240E

(continued)

Item No.	Description	How Submitted	Date Submitted	Submitted to
69.	Monthly Progress Report	Letter ASG/OSP/A&V-77-113	10/18/77	PMA-240
70.	Assessment of P-3C Update II Action Item Status as of 17 October 1977	Letter ASG/OSP/A&V-77-116	10/19/77	AIR-533D4P
71.	Alternative P-3C Update III Program Schedules	Hand-carried	10/21/77	PMA-240
72.	P-3C Update III Interim Support Requirements	Letter ASG/OSP/A&V-77-110	10/28/77	AIR-f101B3
73.	AN/ASA-66 Asset Distribution Plan	Letter ASG/OSP/A&V-77-118	11/3/77	PMA-240B
74.	Alternative P-3C Update III Program Schedule	Hand-carried	11/4/77	PMA-240
75.	Auxiliary Power Unit BCMs, August 1976 through July 1977	Letter ASG/OSP/A&V-77-120	11/6/77	AIR-4122C3
76.	Minutes of the P-3C Update III SMT Meeting No. 3	Hand-carried	11/7/77	PMA-240
77.	P-3 ATE/TPS Work Shop Action Item Review	Letter ASG/OSP/A&V-77-119	11/11/77	AIR-4101B3
78.	Agenda for P-3C Update III SMT Meeting No. 4	Hand-carried	11/16/77	PMA-240
79.	P-3C Update II Status Summary	Hand-carried	11/16/77	PMA-240A1
80.	P-3C Update II Logistics Support Cost Estimates	Letter ASG/OSP/A&V-77-122	11/17/77	PMA-240
81.	IIAF FMS Master Data List Update	Letter ASG/OSP/A&V-77-126	11/18/77	NAEC Code 92A42
82.	Use of Reliability Improvement Warranty for the TT-707/AG Procurement	Letter ASG/OSP/A&V-77-125	11/21/77	AIR-53342C
83.	P-3C Update II HDMT No. 16 Action Items Summary	Hand-carried	11/21/77	PMA-240A1
84.	Monthly Progress Report	Letter ASG/OSP/A&V-77-128	11/28/77	PMA-240
85.	P-3C Update III Program Status Summary	Hand-carried	11/30/77	PMA-240
86.	P-3 ATE/TPS Program Status Summary	Hand-carried	11/29/77	AIR-4101B3
87.	P-3C Update III Action Item Summary	Hand-carried	12/8/77	PMA-240
88.	Monthly Progress Report	Letter ASG/OSP/A&V-77-136	12/28/77	PMA-240
89.	TPS Development, USM-449(V) Self Test and ASN-124	Letter ASG/OSP/A&V-77-135	1/5/78	PMA-240
90.	Minutes of SMT No. 4	Hand-carried	1/10/78	PMA-240
91.	GFE for TPS Development/Duplication/Maintenance	Letter ASG/OSP/A&V-78-1	1/17/78	PMA-240
92.	Agenda for SMT No. 5	Hand-carried	1/23/78	PMA-240
93.	Monthly Progress Report	Letter ASG/OSP/A&V-78-6	1/26/78	PMA-240
94.	P-3C Update III Program Status Summary	Hand-carried	1/30/78	PMA-240
95.	IIAF FMS Master Data List Update	Letter ASG/OSP/A&V-78-9	1/31/78	NAEC
96.	P-3A/B Modernization Program Status Summary	Hand-carried	1/31/78	PMA-240
97.	Digital Data Unit (DDU) Five Year Maintenance Proposal	Letter ASG/OSP/A&V-78-10	2/2/78	AIR-5103B
98.	LTN-72 Operational Logistics Support Plan (OLSP) for P-3 Aircraft, Submission of	Letter ASG/OSP/A&V-78-11	2/17/78	AIR-4101B3
99.	IIAF FMS Master Data List Update	Letter ASG/OSP/A&V-78-12	2/7/78	PMA-240D
100.	P-3 Logistic Funding Requirements (FY-78 through FY-82), Line Items 11, 12, 13, and 15	Letter ASG/OSP/A&V-78-15	2/24/78	PMA-240
101.	OA-8770/ASH Video Film Recorder AIRTASK No. 2 Procurement	Letter ASG/OSP/A&V-78-16	2/13/78	AIR-533DP
102.	AU and DCS Spares Procurement Schedules	Letter ASG/OSP/A&V-78-17	2/13/78	AIR-4101B3
103.	P-3 Logistic Funding Requirements (FY-79 through FY-82), Line Items 11, 12, 13, and 15	Letter ASG/OSP/A&V-78-18	2/24/78	PMA-240

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report summarizes a 12-month logistics, engineering, and program analysis effort performed by ARINC Research Corporation for the Naval Air Systems Command. It describes the activities that provided the P-3 Project Manager with an independent and objective evaluation of factors affecting the P-3's operational availability and logistic support posture. The effort consisted primarily of analysis tasks for the major P-3 modification programs, integrated logistic support, foreign military sales programs, operational readiness programs, and P-3 site transition programs.		

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